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PREPARING FOR TAKE-OFF
THE RISE OF COMMERCIAL DRONE TECHNOLOGY

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Imagine opening your front door to see a package containing yesterday's online purchase sitting on your doorstep, while its bearer – an unmanned aerial vehicle – flies off into the horizon.

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With Australia Post recently announcing that by 2016 it will join the ranks of companies such as Amazon trialling drone parcel deliveries, that sight might not be too far off.

Such developments, in combination with Amazon's proposal earlier this year to create separate "drone-specific" air zones, brings into focus the rapidly increasing use of drones for commercial purposes.

We take a closer look at some of those commercial purposes, the key legal issues in play and the various approaches to regulating drones around the world. We also consider the path that regulators may take as they look to balance the inevitable rise of the drone.

THE RISE OF THE DRONE

Drones are not a new phenomenon. They have been used extensively for many years in military and recreational capacities. However, with sophisticated drone technology becoming less cost-prohibitive, their use for commercial purposes is increasing exponentially. Drones are being used in a wide range of industries. Here are just some examples (the tip of the iceberg):

Media – the use of aerial footage from drones has become so common that drone use has been dubbed 'drone journalism'. The Washington Post and The New York Times have begun using drones to cover news events too dangerous or expensive for live reporters.

Agriculture – many agri-businesses now use drones to monitor livestock and crop conditions. US start-up Vine Rangers is using images taken by drones to create soil contour maps and plant density reports.

Energy and Infrastructure – offshore facilities, remote pipelines and power lines in rugged terrain are now commonly inspected using drone technology. US company SkySpecs is calling for drones to be used to inspect all public infrastructure including tunnels, bridges, and sewers.

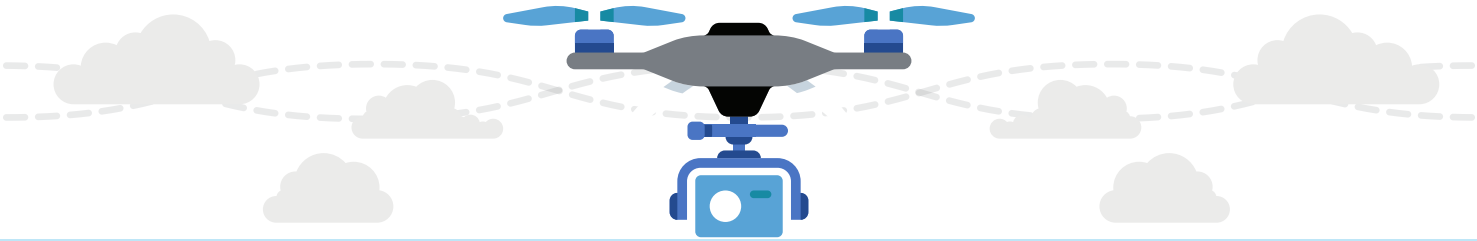
Healthcare – drones are being used for medical supply delivery. The World Health Organisation and the Bhutanese government have partnered with a US drone company to facilitate the delivery of medical supplies to otherwise inaccessible areas.

Mining – Companies such as Rio Tinto currently use drones for inspecting pipelines, checking stockpiles and monitoring potentially dangerous geotechnical issues within mines.

The commercial use of drone technology is clearly in its infancy, yet its rapid and widespread adoption in the face of limiting regulation is a powerful indication of its potential impact. Advisory firm LuxResearch recently estimated that the global market for commercial drone sales will reach $1.7 billion by 2025, while the Association for Unmanned Vehicle Systems International estimated that the economic impact on the United States alone by 2025 will be $82 billion.

POSSIBLE TURBULENCE

However, the same features that make drones commercially attractive – their surveillance and monitoring capabilities, affordability, and potential for GPS and internet connectivity – also raise a number of legal issues.



- Most jurisdictions have in place a regime aimed at protecting individual privacy rights. However, the degree of protection differs materially by jurisdiction:
  - UK – the Data Protection Act 1998 (DPA) regulates the obtaining, holding, use and disclosure of personal information. It does not uphold a general 'right to privacy'. The UK also adopts the European Convention on Human Rights, which provides for a limited right of respect towards an individual's privacy and family life.
  - United States – the right to privacy is not explicitly stated in the Bill of Rights. However, modern tort law includes a number of categories of invasion of privacy, including unreasonably intruding upon the seclusion or solitude of the individual and publicly disclosing private facts of the individual.
  - Australia – Australia's privacy regime is fragmented, consisting of a combination of Commonwealth, State and Territory legislation and common law. The Privacy Act 1988 (Cth) focuses on data protection as opposed to intrusion into privacy and does not cover the collection and use of an individual's personal information by private citizens.
- The ease with which drones can intrude, either intentionally or inadvertently, on a person's private activities (often without their knowledge) brings privacy issues to the fore. With advances in the monitoring and surveillance equipment that drones are able to carry, and therefore the images and data they are able to collect, the risk of intrusion into personal privacy will increase.
- Recent examples include an Australian woman sunbaking in her backyard who was inadvertently captured in promotional real estate aerial photos taken by drone and an (unsuccessful) privacy complaint in New Zealand submitted by a homeowner regarding a drone used by Sky TV to film a cricket match flying too close to his property.
- Privacy concerns are heightened by the fact that most jurisdictions do not enshrine a general 'right to privacy' and instead focus on the protection of individuals' personal data. Meanwhile there is a concern that surveillance laws are often outdated.

BIG DATA AND THE INTERNET OF THINGS

Drone surveillance and monitoring capabilities complement the promise of Big Data that companies need only access a large enough pool of information to unlock valuable commercial marketing, sales and branding insights. As such, it is inevitable that increases in the number of commercial drones operating as connected devices will lead to substantial growth in the volume of 'big data' collected.

The sheer enormity of information that millions of commercial drones will generate not only raises issues in relation to the collection of data, but also in relation to the way in which that data may be used. For example, most privacy law regimes would not consider a retailer keeping a record of a consumer's purchase to be an invasion of privacy. In today's world, however, that record can be run through Big Data analytics to build an ever-growing profile about that consumer's tastes and preferences that retailers can use to provide targeted advertising. We are already seeing resistance to retailers using smartphone wireless connections to track the movement of shoppers in their stores. The combination of increased drone use and Big Data therefore poses a challenge to both lawmakers and society to consider what information should be protected, and how.

Air Safety – our current air safety laws and traffic control systems were designed to regulate a set number of large and manned commercial or military aircraft flying on predetermined routes, not several small, unmanned vehicles piloted by civilians with no set routes. As such, there are serious concerns around on-ground public safety, damage to property and the threat of mid-air collisions with manned aircraft: challenges that Amazon's superhighway proposal aims to address.

Trespass / Nuisance – the use of drones and their ability to invade the 'lower stratum' of a land owner's airspace raises trespass concerns where control of that airspace is reasonably necessary for the landowner's enjoyment of their land.

REGULATING AIR

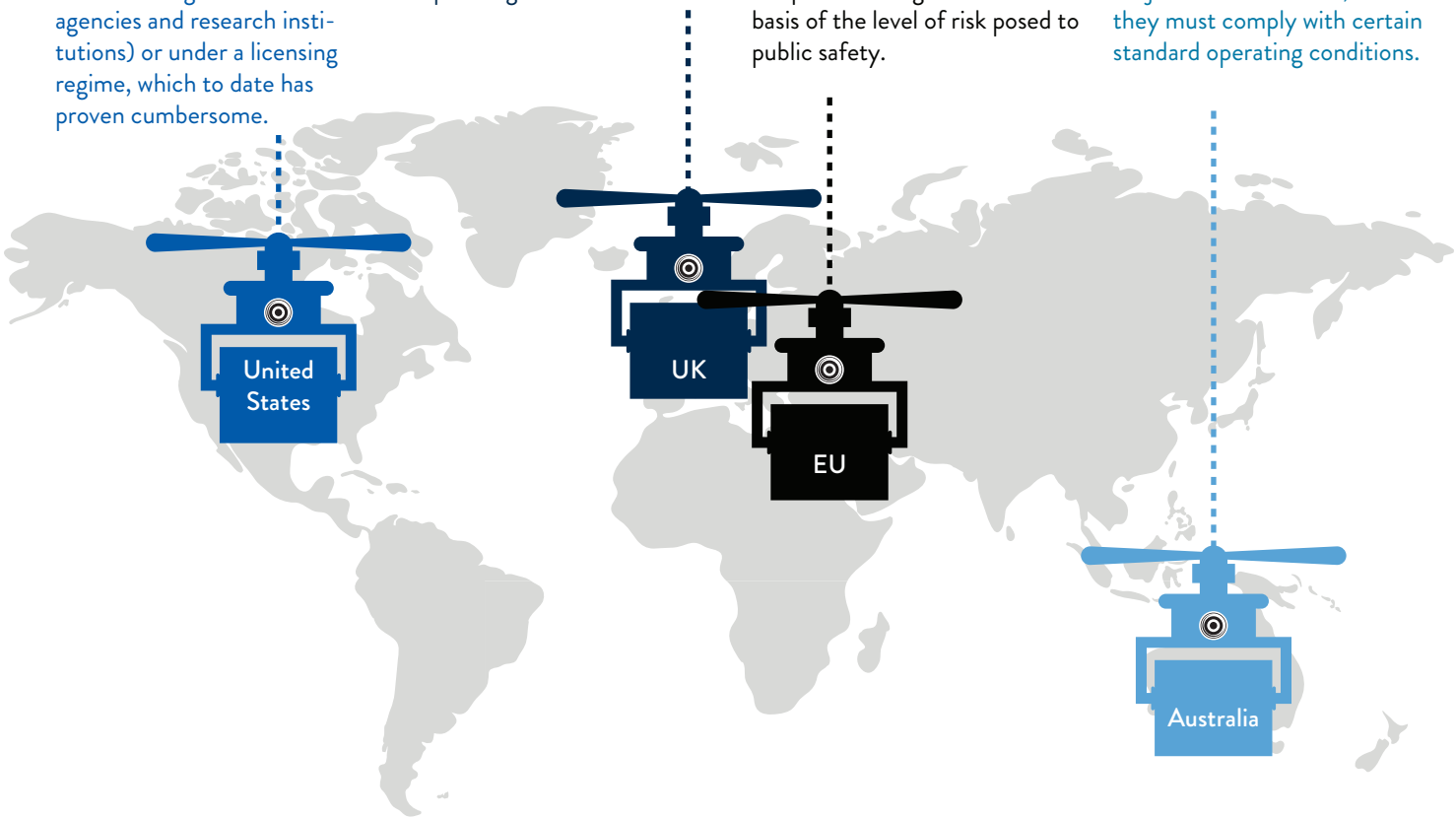
Approaches to the regulation of drones vary significantly by jurisdiction. Unhelpfully, the focus is generally on air safety concerns rather than addressing privacy-related issues.

United States – in 2013, the US specified that drone use for commercial purposes can only be carried out under a waiver process (typically reserved for government agencies and research institutions) or under a licensing regime, which to date has proven cumbersome.

UK – the Civil Aviation Authority bans drones heavier than 20kg from flying in civilian airspace, while those less than 20kg are subject to more limited operating restrictions.

EU – the European Commission has proposed adopting rules developed by the European Aviation Safety Agency (EASA) which sets out three categories of operations regulated on the basis of the level of risk posed to public safety.

Australia – in 2002, Australia specified that drone use for commercial purposes can only be carried out with certification. Recreational drone users are not subject to certification, however they must comply with certain standard operating conditions.



Nevertheless, some of these regulations have still helped to facilitate the commercial use of drones. For example, Australia – with its regulations allowing companies to seek certification for drone use dating back to 2002 – has arguably been a friendlier environment for commercial innovation than the US, which until 2013 predominantly only permitted public entities (e.g. universities and law enforcement agencies) to operate drones.

THE FLIGHT PATH AHEAD

While regulations are still playing catch-up with the advances in drone technology, there are some promising signs of regulatory evolution ahead. Jurisdictions including the US, EU and Australia have indicated that they will begin relaxing strict regulations on commercial drone use. However, it is important that such measures be accompanied by evolution in areas such as privacy that have historically been slow to develop.

Ultimately the aim of regulators must be to develop a regulatory framework which continues to permit innovation in drone technology (and its associated commercial benefits) at the same time as ensuring that people's rights, in particular regarding privacy, are adequately protected. It is time that regulators too got on board the superhighway.

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